

CLAIMS

1. A rotating electric machine for high voltage comprising a stator (2), a rotor and windings, where the windings comprise high voltage cables enclosing the electrical field within the windings and a device for fault current control, characterized in that the device (10) for fault current control comprises a rod, pipe or the like of an electrically conducting material connected to ground and arranged in the end winding region.
2. A rotating electrical machine as claimed in claim 1, characterized in that an arrangement of rods, pipes or the like in the end winding region is placed so that the largest physical distance between the rods, pipes or the like is small enough to ensure a deflection of an arc in the end winding region to ground.
3. A rotating electrical machine as claimed in claim 1 or claim 2, characterized in that the rods, pipes or the like are inserted a specific distance into the end winding region and this distance being limited, so that eddy currents produced in the rods, pipes or the like are below a predetermined magnitude.
4. A rotating electrical machine as claimed in any of claims 1-3, characterized in that the rods, pipes or the like are slotted in order to reduce eddy-current losses.
5. A rotating electrical machine as claimed in any of claims 1-3, characterized in that the rods, pipes or the like comprises a plurality of small conductors combined in to a bundle having sufficient cross-sectional area to deflect short-circuit currents arising in the end winding region in the event of a fault.
6. A rotating electrical machine as claimed in any of claims 1-5, characterized in that the rods, pipes or the like are arranged to be in contact with spacers of resilient, electrically conducting material, said spacers being applied between adjacent cables in the end winding region and in contact with the outer semi-conducting layers of the cables.

7. A rotating electrical machine as claimed in claim 6, characterized in that the rods, pipes or the like are inserted into the spacers.

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8. A rotating electrical machine as claimed in any of claims 6-7, characterized in that the rods, pipes or the like are arranged in contact with several spacers arranged one after the other in the direction of the end of the stator.

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9. A rotating electrical machine as claimed in any of claims 1-8, characterized in that the device consist of a flexible wire..

10. A rotating electrical machine as claimed in any of claims 1-9, characterized in that the device also is used to mechanically stabilize the end winding.

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11. A rotating electric machine as claimed in any of the claims 1-10, characterized in that the high voltage cable is flexible and comprises one or more current-carrying conductor, wherein around each conductor there is arranged an inner layer with semiconducting properties and around the inner layer there is arranged a solid insulating part and around the insulating par there is arranged an outer layer with semiconducting properties.

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12. A rotating electric machine as claimed in any of the claims 1-11, characterized in that the winding thereof is designed for a voltage suitably in excess of 36 kV, and preferably up to very high voltages, such as 400 kV to 800 kV.

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